UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
OREGON OPERATIONS OFFICE
805 SW Broadway, Suite 500
Portland, Oregon 97205

November 20, 2008

Mr. Robert L. Ferguson
StarLink Logistics Inc.
2534 Cascade Drive
Chapel Hill, North Carolina 27514

Re: Evaluation of Groundwater Discharge to the Willamette River – Rhone Poulenc, Portland, Oregon (October 1, 2007)

Dear Mr. Ferguson:

During a meeting on July 10, 2007, EPA, DEQ and StarLink Logistics Inc. (SLLI) representatives discussed the need for additional characterization of deep groundwater off-shore of the Rhone Poluenc site in Portland, Oregon. During the meeting SLLI representatives agreed to evaluate groundwater conditions in vicinity of the Rhone Poulenc site and the groundwater pathway evaluation results collected in 2005 by the Lower Willamette Group (LWG) for the purpose of determining whether additional data collection efforts were required to support the in-water risk assessment and feasibility study. SLLI provided an evaluation of groundwater discharge to the Willamette River in a letter dated October 1, 2007 to the Oregon Department of Environmental Quality.

EPA has reviewed the groundwater evaluation to determine the need for the collection of off-shore groundwater or transition zone water. In addition, EPA has reviewed the SLLI evaluation with respect to the upland source control evaluation currently being performed at the Rhone Poulenc site under DEQ oversight. EPA disagrees with SLLI's determination that discharge areas for the Deep Gravel Zone (DGZ) are well understood and adequately defined upstream and downstream of the railroad bridge, and that no additional data gaps related to the DGZ need to be filled in order for LWG to complete the Portland Harbor RI/FS. EPA comments are presented below.

The SLLI evaluation identifies groundwater discharge areas for the Deep Gravel Zone (DGZ) as presented in Figure 3. Although EPA agrees that discharge areas have been established for the DGS, EPA does not believe that they were adequately defined downstream of the railroad bridge (adjacent to Siltronic property) or upstream of the railroad bridge (adjacent to Arkema property). Specifically, EPA believes that the extent of the gravel zone extends farther into the river than the measured contaminant discharge areas as depicted in cross sections F-F' and A-A. It is also likely that the extent of the contaminant discharge area is larger than depicted by the figures due to the potential for the gravel zone to transport groundwater contaminants to the Willamette River. Further, EPA believes that the geology is much more complex between the gravel zone and the river sediment than is depicted in the figures and that this complexity would affect the extent of the discharge area(s) as presented in the SLLI evaluation. For example, it is likely that lenses of gravel are present within the depicted sand and silt zones and may serve preferential migration pathway. Therefore, EPA believes that there may be data gaps

with respect to the areal extent of the discharge area for the Portland Harbor site. Although additional investigation is not required to support the Portland Harbor remedial investigation (RI) and baseline risk assessment (BRA), further delineation of the groundwater discharge area is required to support the Portland Harbor Feasibility Study (FS).

Additionally, EPA believes that there may be data gaps with respect to the fractured basalt layer that have not been presented in the referenced document, but has been presented by other conceptual site models and in reports for the RP site. EPA believes that there is a widespread interconnection between the deep gravel zone and the upper zone of fractured basalt such that the gravel zones are not hydraulically isolated as depicted on cross section C-C'. EPA is concerned that the contaminant flow path is through a combination of the gravel zone and upper fractured basalt zone and, as a result, the contaminant migration pathway and potential for contaminant discharge to the Willamette River is larger than depicted in the SLLI letter.

In order for EPA to fully evaluate groundwater discharges at the Rhone Poulenc Site, a complete upland remedial investigation report (Upland RI) and source control evaluation (SCE) must be made available to EPA that contains a comprehensive conceptual site model for the fate and transport of contaminants from this site. EPA expects that the Upland RI and SCE would contain the boring logs, all data collected for the site, and a presentation of the fate and transport of all Rhone Poulenc COIs (laterally and at depth), including accurate depictions of the alluvium. Further, the conceptual model should include information collected from the Portland Harbor RI, such as boring logs and cores.

EPA agrees that the transition zone samples collected by the LWG present a reasonable representation of groundwater concentrations measured in the deep wells at the river bank (e.g., RP-24/Sil-04). However, EPA does not agree with the conclusion presented on Page 16 that the maximum concentration in the groundwater discharge has been identified. The maximum concentration of RP-like constituents in the groundwater that intersects the Willamette River is not well defined nor well understood. The concentrations across C-C' and the location of the monitoring wells shows that the concentration is variable where measured and could vary even greater where it was not measured.

EPA cannot comment on whether future source control measures are expected to be effective because EPA has not been presented with a comprehensive upland conceptual site model. The proposed North Avenue Interim Source Control Measure is focused on controlling contaminant migration along Front Avenue and along the railroad right of way. A large area between Front Avenue and the Willamette River will remain uncontrolled and may require additional upland source control measures or remedial measures as part of the Portland Harbor site.

As stated previously, EPA believes that additional sampling is required to support the Portland Harbor FS. Additional sampling should focus on characterizing transition zone water off-shore of a zone extending from RP-24/SIL-04 to W-19. In addition, additional sampling off shore of the previously sampled area may be required to evaluate contaminant discharges associated with the deep gravel zone. EPA needs to understand the magnitude of the contamination in the river, as well as contamination discharging to the river, in order to

adequately determine the extent and type of the remedial action. As stated above, a complete Upland RI and SCE must be made available to EPA that contains a comprehensive conceptual site model for the fate and transport of contaminants from this site in order for fully evaluate groundwater discharges at the Rhone Poulenc Site,.

EPA requests that a Groundwater Pathway Evaluation Field Sampling Plan be prepared to characterize transition zone water off-shore of the Rhone Poulenc site. This plan should be submitted to EPA (lead agency) and DEQ (support agency) for review within 60 days following receipt of this letter. EPA believes that it is imperative that this data be collected during the summer of 2009 and should be incorporated into the Portland Harbor FS or remedial design as dictated by the project schedule In addition, EPA requests that SLLI submit the Upland RI and SCE to DEQ (lead agency) and EPA (support agency) by [need date]. It may be useful to schedule a meeting between EPA, DEQ and SLLI to clarify roles and responsibilities relative to the upland and in-water evaluations of groundwater discharge at the Rhone Poulenc site.

If you have any questions, please contact Chip Humphrey at (503) 326-2678, Eric Blischke at (503) 326-4006, or Kristine Koch at (206) 553-6705. All legal inquiries should be directed to Lori Cora at (206) 553-1115.

Sincerely,

Chip Humphrey Remedial Project Manager	Eric Blischke Remedial Project Manager	Kristine Koch Remedial Project Manager

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Commented [EB1]: Obviously, we need to fix the cc list. Need SLLI point of contact. Should also discuss whether we want to copy entire project team.